This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1.   (Original) A computer-readable medium having stored thereon a data structure comprising:

a first field comprising data representing a linkage between accessibility and override-ability of a virtual method; and

a second data field comprising data representing the accessibility of the virtual method;

wherein, if an attempt to override the virtual method is encountered, the first field is examined to determine the linkage and the second data field is optionally examined to verify accessibility before granting an override of the virtual method.

2.   (Original) The computer-readable medium of claim 1, wherein the first field comprises at least one bit of metadata.

3.   (Original) The computer-readable medium of claim 1, wherein the second data field is examined if the first data field indicates that accessibility need be checked before granting an override of the virtual method.

4.   (Original) The computer readable medium of claim 1, wherein the second field comprises at least one of a private bit, a public bit, an assembly bit, a family bit and a virtual bit.

5.   (Original) A method of linking accessibility and override-ability of virtual methods comprising:

setting at least one bit in metadata indicative of allowing a virtual method to be overridden; and

checking the status of the at least one bit to determine if accessibility of the virtual method need be verified before overriding the virtual method.

6.   (Original) The method of claim 5, wherein a first state of the at least one bit is indicative of granting an unconditional override of the virtual method and a second state of the at least one bit is indicative of granting an override dependent on the accessibility of the virtual method.

7.   (Original) The method of claim 5, wherein accessibility of the virtual method comprises flag bits in metadata comprising a private bit, a public bit, an assembly bit, a family bit and a virtual bit.

8.   (Original) A method of assessing permission to use a derived virtual method comprising:

      receiving input code comprising at least one derived virtual method based on at least one virtual method of a programming language utilized to generate the input code;

      compiling the input code into at least one programming entity;

      examining metadata to assess the permission to use the derived virtual method; and

      performing one of granting use and denying use of the derived virtual method dependent upon a link between accessibility and override-ability of the at least one virtual method;

      wherein the link between accessibility and override-ability is established in the metadata.

9.   (Original) The method of claim 8, wherein the at least one programming entity comprises at least one of a module, an assembly and an application.

10.   (Original) The method of claim 8, wherein the at least one programming entity is an intermediate language representation.

11.   (Original) The method of claim 8, wherein the link comprises at least one bit indicating that override-ability is dependent on accessibility.

12.   (Original) A computer system comprising:

a processor which acts upon an input program comprising at least one virtual method;

a mechanism establishing a potential correspondence between accessibility and override-ability of a virtual method comprising at least one bit of metadata;

wherein the processor utilizes the mechanism to detect the potential correspondence between accessibility and override-ability before allowing the at least one virtual method to be overridden.

13.   (Original) The computer system of claim 12, wherein the mechanism permits the at least one virtual method to be overridden if the at least one virtual method is not accessible.

14.   (Original) The computer system of claim 12, wherein the mechanism equates accessibility and override-ability.

15.   (Original) The computer system of claim 12, wherein a derived method being generated from the at least one virtual method is subject to the mechanism establishing a potential correspondence between accessibility and override-ability of a virtual method.

16.   (Original) A computer system performing the method of:

receiving program code comprising a derived virtual method, the derived virtual method being derived from a virtual method of a program language used to generate the program code;

compiling the program code to an intermediate language expression;

generating metadata descriptive of the compiled program code, the metadata indicating a linking of accessibility and override-ability of the virtual method;

accessing and examining the metadata; and

allowing the use of the derived virtual method based on the linking of accessibility and override-ability of the virtual method as indicated by the metadata.

17.   (Original) The computer system of claim 16, wherein accessing and examining the metadata occurs in a common language infrastructure environment supporting at least one programming language.

18.   (Original) The computer system of claim 16, wherein the generating of metadata comprises generating at least one bit wherein the bit indicates a need to check accessibility before overriding a virtual method.

19.   (Original) The computer system of claim 16, wherein generating metadata comprises generating metadata while compiling the program code.

20.   (Original) The computer system of claim 16, wherein generating metadata comprises utilizing pre-existing values indicative of the access and override permissions concerning the virtual method of the programming language.

21.   (Original) A computer-readable medium having computer-executable instructions for performing a method comprising:

        receiving program code comprising a derived virtual method, the derived virtual method being derived from a virtual method of a program language used to generate the program code;

        compiling the program code to an intermediate language expression;

        generating metadata descriptive of the compiled program code, the metadata indicating a linking of accessibility and override-ability of the virtual method;

        accessing and examining the metadata; and

        allowing the use of the derived virtual method based on the linking of accessibility and override-ability of the virtual method.

22.   (Original) The computer-readable medium of claim 21, wherein the generating of metadata comprises generating at least one bit wherein the bit indicates the availability of overwriting the virtual method.

23.   (Original) The computer-readable medium of claim 21, wherein generating metadata comprises generating metadata while compiling the program code.

24.   (Original) The computer-readable medium of claim 21, wherein generating metadata comprises utilizing pre-existing values indicative of the access and override permissions concerning the virtual method of the programming language.

25.   (Original) A computer-readable medium having computer-executable instructions for performing a method of linking accessibility and override-ability of virtual methods comprising:

setting at least one bit in metadata indicative of allowing a virtual method to be overridden; and

checking the status of the at least one bit to determine if accessibility of the virtual method need be verified before overriding the virtual method.

26.   (Original) The computer-readable medium of claim 25, wherein a first state of the at least one bit is indicative of granting an unconditional override of the virtual method and a second state of the at least one bit is indicative of granting an override dependent on the accessibility of the virtual method.

27.   (Original) A computer-readable medium having computer-executable instructions for performing a method of assessing permission to use a derived virtual method comprising:

receiving input code comprising at least one derived virtual method wherein at least one derived virtual method is based on at least one virtual method of a programming language utilized to generate the input code;

compiling the input code into at least one programming language;

examining metadata to assess the permission to use the derived virtual method; and

performing one of granting use and denying use of the derived virtual method dependent upon a link between accessibility and override-ability of the at least one virtual method;

wherein the link between accessibility and override-ability is established in the metadata.

28.   (Original) The computer-readable medium of claim 27, wherein the at least one

programming language is an intermediate language representation.

29.   (Original) The computer-readable medium of claim 27, wherein the link comprises at

least one bit indicating that override-ability is dependent on accessibility based on the status

of the bit.